

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A switch, comprising:
 - a plurality of ports;
 - a plurality of link up/down detection logic units, each link up/down detection logic unit associated with a port and configured to detect a change in the state of a link associated with the port; and
 - a configuration validation checker coupled to each of the link up/down detection logic units, said configuration validation checker causes the switch to change its routing behavior with regard to a port for which a link up/down detection unit has detected a state change;

wherein the configuration validation checker receives topology information from an entity external to the switch and prevents said topology information from being used by the switch for routing purposes if the topology information fails to comport with local topology information stored in the switch.
2. (Original) The switch of claim 1 wherein each link up/down detection logic unit informs the configuration validation checker when a link to an associated port becomes non-functional, and the configuration validation checker responds by discarding all packets.
3. (Original) The switch of claim 1 wherein each link up/down detection logic unit informs the configuration validation checker when a link to an associated port becomes non-functional, and the configuration validation checker responds by discarding all packets destined to that link.

4. (Currently amended) The switch of claim 1 wherein each link up/down detection logic unit informs the configuration validation checker when a non-functional link to an associated port becomes functional, and the configuration validation checker responds by:

receiving an identifier value from another entity coupled to the switch via the functional link;

comparing the identifier value received from the another entity with said local topology information contained in the switch;

if the identifier value matches a value in the local topology information, permitting the switch to route packets over the functional link; and

if the identifier value does not match a value in the local topology information, discarding all packets targeting the functional link.

5.-6. (Cancelled).

7. (Currently amended) A switch, comprising:

a plurality of ports;

a plurality of link up/down detection logic units, each link up/down detection logic unit associated with a port and adapted to detect a change in the state of a link associated with the port; and

means for causing the switch to change its routing behavior with regard to a port for which a link up/down detection unit has detected a state change; and

means for receiving an indication from the link up/down detection logic units that a link to an associated port has become non-functional and means for ceasing routing of all packets.

8. (Cancelled).

9. (Currently amended) The switch of claim 7 further including ~~a means for receiving an indication from the link up/down detection logic units that a link to an~~

~~associated port has become non-functional and a means for ceasing routing of all packets destined to that said link.~~

10. (Currently amended) A network, comprising:
a plurality of switches coupled together;
at least one end node coupled to at least one switch;
wherein at least one switch includes:
a link up/down detection logic ~~unit~~ associated with a port and
configured to detect a change in the state of the link; and
a configuration validation checker coupled to the link up/down
detection logic ~~unit~~, said configuration validation checker
causes the switch to change its routing behavior with regard
to the port if the link up/down detection logic unit has
detected a state change;
wherein the link up/down detection logic informs the configuration
validation checker when said link becomes non-functional, and the
configuration validation checker responds by rejecting all packets
destined to said link.

11. (Previously presented) The network of claim 10 wherein the link up/down detection logic unit informs the configuration validation checker when the link becomes non-functional, and the configuration validation checker responds by rejecting all packets.

12. (Cancelled).

13. (Previously presented) A method performed by a switch contained in a system, comprising:

the switch monitoring a port for a link down event or a link up event, said
link down event indicative of a link from the switch to an entity

becoming non-functional and said link up event indicative of a newly established link from the switch to said entity;
the switch detecting a link down event associated with said switch or a link up event associated with said switch;
receiving a packet into said switch;
the switch determining if said packet is to be routed out through said port associated with the detected link down event or link up event;
if the switch determines that the packet is to be routed out through said port associated with a detected link down event, the switch discarding the packet; and
if the switch determines that the packet is to be routed out through said port associated with a detected link up event, the switch routing the packet through said port.

14. (Previously presented) The method of claim 13 further including if the switch determines that the packet is to be routed out through said port associated with a detected link down event, discarding all packets received by the switch.

15. (Previously presented) The method of claim 13 further including requesting the entity to provide a unique identifier to the switch.

16. (Original) The method of claim 15 further including the switch receiving a unique identifier from the entity, comparing the unique identifier received from the entity to state information contained in the switch and, if the unique identifier from the entity does not match a value in the state information, discarding a packet destined for the entity.

17. (Original) The method of claim 16 wherein further including if the unique identifier from the entity matches a value in the state information, permitting packets destined for the entity to be routed from the switch to the entity.